



**University of
Leicester**

THE UNIVERSITY OF THE YEAR 2008/9

PARTICULARS OF APPOINTMENT

**Climate Change Adaptation (CCAS) Scientist
New Blood Lecturer in Climate Change Adaptation in Sensitive Environments
College of Science and Engineering**

Salary Grade 8 - £35,469 to £43,622 p.a.

Available immediately

Ref: SEN00038

The University

The University of Leicester is a leading UK university that delivers high quality research and inspirational teaching. Leicester is the Times Higher Education's University of the Year for 2008-9. The University is ranked 15th out of over 120 universities, Leicester features prominently amongst the world's top 200 institutions.

Leicester is a University of over 21,000 students – almost half of whom study at postgraduate level. The University employs 3,500 staff and has an annual turnover of £224m.

Leicester is a member of the 1994 Group of internationally renowned universities engaged in leading-edge research and high quality teaching. 87% of our research was deemed to be of international significance by the 2008 Research Assessment Exercise. Our Quality Related (QR) research income places us amongst the UK's top-20 research intensive universities. A study by QS for the Times Higher Education magazine in October 2008 revealed the impact of Leicester's research was high. Leicester enjoys the seventh highest level of research citations per academic amongst UK universities. According to the BBC, the "greatest cluster of world-leading researchers of any discipline in any university in the UK is [at] Leicester" – in our Department of Museum Studies.

The discovery of DNA Genetic Fingerprinting is our most famous achievement, but our world-class research is diverse and significant in its impact. For example, our recent work has demonstrated links between hormones and heart disease, discovered new techniques for lifting fingerprints from metals (for example bullets), highlighted that Renaissance England possessed unprecedented diverse and flourishing satire and comedy, and demonstrated that diet has a significant impact on the evolution of species.

The University of Leicester is, according to *the Times* newspaper, "an award winning institution attracting top academics". For five consecutive years, the University of Leicester has recorded some of the highest scores for student satisfaction in the National Student Survey. In the 2009 survey 91% of full-time students taught at Leicester were satisfied with their programme. The Sunday Times writes, "no multi-faculty university achieved better results than Leicester". Teaching in 18 subject areas have been graded as "Excellent" by the Quality Assurance Agency – including 14 successive top scores. Leicester is also home to two prestigious national Centres for Excellence in

Teaching and Learning (in Genetics and Geographical Information Science) and plays an important role in a third (Physics).

We are highly ranked: 15th out of over 120 universities by both the Guardian University Guide and the Times Good University Guide. We're also amongst Britain's top 20 institutions in *the Independent's* Complete University Guide, which described Leicester as a "first class university", and the Sunday Times University Guide. We are one of a handful of British universities to feature amongst the world's top 200 (151st in the Shanghai Jiao Tong Table and 177th in the Times Higher World University rankings 2008).

In October 2008 the University was named University of the Year 2008 by the Times Higher Education at their annual awards. The judges cited Leicester's ability to "evidence commitment to high quality, a belief in the synergy of teaching and research and a conviction that higher education is a power for good".

Founded as a University College in 1921 and granted a Royal Charter in 1957, the University has an estate of 232 acres that includes a fifteen-acre Botanic Garden, an arboretum and a range of residences in the suburbs that are set in attractive gardens.

The University of Leicester holds the Athena Swan Bronze Award which recognises excellence in Science, Engineering and Technology (SET). The award specifically reflects a commitment to the advancement and promotion of the careers of women in SET. The University recognises that in order to attract and retain talented people it is necessary to ensure that the different approaches and needs of both men and women are equally valued. <http://www.athenaswan.org.uk/html/athenaswan/>

College of Science and Engineering

The College comprises seven research-led departments: Chemistry, Computer Science, Engineering, Geography, Geology, Mathematics, Physics & Astronomy. Together, these departments teach approximately 20% of campus-based undergraduate students, undertaking diverse programmes of study, from human geography through a range of laboratory-based subjects to engineering. They also generate more than a third of the University's research income.

Although each department has a distinct identity, there are a number of major interdisciplinary research activities, typified by centres in [Space Research](#), [Climate Change Research](#), [Mathematical/Computational Modelling](#) and [Advanced Microscopy](#). Researchers within the College have international reputations and collaborations with researchers throughout the world, making it an exciting environment for both research and teaching.

Our students benefit from following best practice, working alongside leaders in their fields. Approximately a quarter of our undergraduates go on to study for a higher degree. Our graduates are much sought after by employers - either by going directly into employment in the broad area of their degree subject or pursuing successful careers in diverse areas such as education, commerce, IT and the public sector.

Further information about all departments within the College can be found on the College website at: <http://www2.le.ac.uk/colleges/scieng>

Two Positions but One Joint Ethos

There are two CCAS positions being advertised.

'Climate Change Adaptation Technologies'

One will focus on green technologies – those that can monitor and measure climate change impacts and those that can mitigate climate change impacts. The successful candidate will work most closely with science departments such as engineering, physics and space science and chemistry as well as geology, geography and ecosystems science.

‘Climate Change Adaptation in Sensitive Environments’

The other position will develop research on case examples of sensitive environments where climate change impacts can clearly be seen and measured. Examples here include coastal regions, low-lying regions, areas bordering deserts, urban environments, the cryosphere. The successful candidate will work most closely with science departments such as geology, geography and ecosystems science as well as engineering, physics and space science and chemistry.

Both candidates are expected to work in an interdisciplinary manner across (and beyond) the science College developing networks of scientists with the expertise and aptitude to work on CCAS themes. Both candidates will be strongly encouraged to attract significant research income in these fields and help develop new research and ultimately teaching initiatives. There will be Professorial-level mentoring and steering leadership group that will help the successful candidates achieve these ambitious and exciting targets. Each candidate will be aligned to a department commensurate with his/her scientific background.

Background: Societal and Research Drivers and Funding Opportunities

There are many first-order regional to global challenges that require high-quality research in CCAS. This is recognised by a range of research funders. The global population explosion (currently 6.7 billion, predicted to rise to 9 billion by 2050) is probably the generic cause of the key ‘real-world’ scientific and related research challenges we face. The rise in living standards of populous emerging economies (e.g. Brazil, Russia, India, China) are swelling the consumer-oriented ‘Western lifestyle’ populations and their consequent ‘need’ for resources and resultant impact on the planet. The recent climate change debate is one symptom of the population reality. Other challenges include: harnessing the world’s living, energy, mineral, and water resources in a sustainable manner; feeding the world’s population; managing human migration; decreasing the virulent effects of gross poverty amongst the world’s poorest 2-3 billion people; improving political, economic and societal stability, particularly in areas experiencing poor governance...etc. One high profile University of Leicester academic has drafted a form of words that perhaps encapsulates the challenge of this research as well as anyone has:

‘Looking at the current global problems and the immediate future problems, they are caused by too many people (social science) disrupting life support systems (ecological science). Issues such as climate change will make things that are already bad, worse. For Leicester to make an impact that matches its aspirations, we need to be able to use the model of the initiation & development of Climate Change Impact Science and e, build on the interdisciplinarity of the Science College, to tackle problems that are real to society and that need strong academic leadership. Dealing with climate change will require social changes supported, and in some cases led by convincing scientific arguments and green technologies’.

A wide range of funders are supporting CCAS including most research councils (e.g. NERC, BBSRC) RCUK, the European Union, UK Government Departments such as DEFRA and DfID and regional, national and international organisations and industry. These positions will allow the University of Leicester to position its research to attract increasing levels of research income over the next 5 years.

Anticipated Academic and ‘Real-World’ Outcomes

The new posts will encourage tangible outcomes to be achieved within a realistic timeframe. The posts will be encouraged and supported by more experienced senior staff. Tangible College and university outcomes should include an increased attraction of research grants and demonstration that the interdisciplinary approach has attracted funding from 'new markets' and increased REF metrics. The scope for excellent research and follow-on publications must be very significant. Equally important are 'real world impacts and outcomes'. The research could lead to: new green technologies, new monitoring and measurement tools; new modelling approaches; new data sets of use to 'real people'; new uses for earth observation data and approaches; increased SME competitiveness; evidence-based government policy development; new approaches to land and resources management and custodianship; poverty alleviation; improvements in life and environmental quality...etc. There are many possibilities to this exciting research opportunity.

Current Initiatives at the University of Leicester

There are a range of CCAS-related initiatives already in existence at the UoL. These include G-STEP, a project that aims to increase the competitiveness and environmental awareness of the private sector through increased usage of remote sensing data, and CERES (Centre for Environmental Research) that promotes inter-disciplinary research across the science college. There are also numerous research programmes at various departments researching into areas such as fire-frequency and its impacts in Africa, catchments and ecosystems, climate change in the recent Geological past, atmospheric pollutants, using geohazards such as volcanic eruptions as proxies for rapid environmental change, etc. The University is involved in major national initiatives in climate science, through the NERC National Centre for Earth Observation, and in environmental observation technology through the NERC/TSB Centre for Earth Observation Instrumentation (for which it is the academic lead).

Research at Disciplinary Boundaries

Many of the greatest advances in science occur when teams of scientists work together in new and unconventional ways across traditional discipline boundaries. The CCAS initiative has the potential to generate highly innovative, ground-breaking and world-impacting new science, novel scientific applications and life-changing green technologies.

About the New Blood Lectureship Scheme

New Blood Lectureships are an exciting development at the University of Leicester. We seek to appoint 8 high quality individuals into these positions who will enjoy reduced teaching loads, guaranteed study leave and start up funding for travel.

Applications are invited from well qualified candidates with high quality research records for New Blood Lectureships in the 6 major areas of academic development described in detail in this site. Successful applicants will require at least two publications likely to be judged as being of 3* or 4* RAE quality by the appointment and shortlisting panels.

In return, the successful applicants will benefit from:

1. Reduced teaching during the first four years of employment in order to facilitate continued high-quality research:-
 - First year - No teaching. Guaranteed study leave from teaching duties in order to conduct research
 - Second year - 1/3 of normal departmental teaching load
 - Third year - 2/3 of normal departmental teaching load
 - Fourth year - 1/3 of normal departmental teaching load. Eligibility to apply for further study leave

2. Funding for research travel for four years.

After the fourth year, the postholder will be expected to cover normal duties shown below. For the first four years, the postholder will fulfil the duties specific to the New Blood lectureships. The postholder will be responsible to the relevant Head of Department, and will undertake research, teaching, administration and other activities supporting the work of the Department and developing and enhancing its reputation, both internally and external to the University.

Job Outline

This post will focus on likely scenarios re how sensitive environments are likely to adapt to environmental change over a decadal to 100 year time scale, and what mitigation strategies could be employed to mitigate adverse changes. The lectureship will focus on particular regions that are already manifesting adaptation to change and present a myriad of challenges: e.g. the urban and infrastructure environment in low-lying coastal regions; the Sahara borderlands; stressed ecosystems; increasing natural hazards in the Tropics; etc. Specific science areas include: earth observation (mapping, monitoring measuring); environmental modelling (quantitative and qualitative, GIS analysis, multi-parameter analysis); resource management (ecosystems, minerals, water, energy, pollution, catchment management, forests, biodiversity); hazard analysis (fires, landslides, coastal storms, cyclones, tsunamis, volcanic and seismic hazard); learning from past environmental change. In terms of disciplines the lectureship will straddle geography, geology, biosciences and earth observation in the main with overlaps elsewhere (e.g. technologies).

Principal Accountabilities

Research

1. To contribute in a significant and meaningful manner to the Department's research profile by producing research of the highest standard, in line with the University's objective to enhance further its standing at the next REF.
2. To manage research projects within the University, including their financial control and to supervise research assistants and research students.
3. To secure, in collaboration with colleagues, as appropriate, external research funding through research grants or contracts to support a well-defined research agenda, which will deliver outputs of international excellence.
4. Consistent with the resources available and departmental and other obligations, to attend and present research findings and papers at academic and professional conferences, and to contribute to the external visibility of the department.
5. To publish research articles in high quality peer-reviewed journals and volumes.
6. To ensure that all research activities undertaken are in compliance with the 'Research Code of Conduct' operated by the University.

Teaching

1. To give lectures, seminars, tutorials and other classes, as appropriate in support of the required teaching obligations and to supervise project work by undergraduate and postgraduate students.
2. To co-operate with colleagues in the review and development of the curriculum and in the design and launch of new degrees or other academic awards where appropriate.
3. To maintain a broad knowledge of up-to-date research and scholarship in relevant fields to ensure that teaching meets the standards expected within a research-led University.
4. To undertake academic duties (eg setting examination papers, marking, invigilation and pastoral support of students) required to sustain the delivery of high quality teaching.

5. To support and comply with the University and departmental teaching quality assurance standards and procedures, including the provision of such information as may be required by the Department or the University.

Administration

1. To undertake such specific departmental roles and management functions as may be reasonably required by the Head of Department.
2. To attend departmental meetings and to participate in other committees and working groups within the department, the faculty and the University to which appointed or elected.
3. To engage in continuous professional development, for example through participation in relevant staff development programmes.
4. To undertake, subject to agreement of the Head of Department and the University as appropriate, external commitments which reflect well upon and enhance the reputation of the University.
5. To ensure compliance with health and safety requirements in all aspects of work.

Qualifications, Knowledge and Experience required

Essential:

- A PhD or equivalent qualification in a science field relevant to climate change adaptation and sensitive environments such as geography, geology, bio or eco science or earth sciences*
- At least two publications likely to be judged as 3* or 4* RAE quality
- Expertise and experience in research application of scientific methodologies linked to climate change adaptation in vulnerable environments e.g. ecosystems science, geohazards, natural resources management , costal science etc*
- Able to demonstrate experience in attracting funding, developing internal and external networks, leading small teams and/or research programmes

Desirable

- Experience of developing entrepreneurial interests and partnerships in any area related to CCAS
- Willingness to develop new teaching initiatives
- Experience of teaching undergraduate students
- Experience of teaching and supervising PhD students

Skills, Abilities & Competencies required

Essential:

- Evidence of the ability to initiate, develop, and deliver high quality research,*
- The potential to generate significant research grant and/or contract income
- Evidence of the ability to teach at undergraduate and postgraduate level*
- Good verbal and written communication skills.
- Potential for academic leadership
- Commitment to high quality teaching

Desirable:

- Success in attracting external research funds

(*Criteria to be used in shortlisting candidates for interview)

Informal Enquiries

If you would like to discuss these opportunities further you can contact either Professor Martin Barstow, Head of College, on Leicester 0116 252 3492 (mab@le.ac.uk) or Professor Mike Petterson 0116 252 3611 (mp329@le.ac.uk) in first instance or any of the following individuals who have collaborated in developing this initiative:-

Professor Heiko Balzter, Head of Department, Geography, 0116 252 3820 (hb91@le.ac.uk)

Professor Paul Monks, Chemistry 0116 252 2141 (psm7@le.ac.uk)

Dr John Remedios, Senior Lecturer, Physics 0116 223 1319 (jjr8@le.ac.uk)

The closing date for this post is midnight on **26 November 2009**.

Applications

For further information and to apply on-line, please visit our website: <http://www2.le.ac.uk/offices/personnel>

Extracts From Terms and Conditions

The appointment is subject to University Charter, Statutes, Ordinances, and Regulations, and to the standard Terms and Conditions of Appointment for Academic Staff. A copy of the full Terms and Conditions may be obtained by contacting Personnel Services. A Lecturer may be required to serve a probationary period of up to three years. Appointments on probation are reviewed annually.

Staff are responsible to the Head of the Department for such lecture courses, teaching, postgraduate supervision, examining and other work as may be allotted to them. They are required to take a full share in all examining work and in the tutorial work of the Department (personal as well as academic) and in such general work of the Department as may be required from time to time by the Head of Department. Staff are expected to attend regular Departmental Staff Meetings.

Members of the academic staff are expected to undertake scholarly work and research and the University endeavours to provide adequate resources for the research interests of its staff. Staff are also expected to undertake adult and continuing education teaching as and when appropriate.

Salary Spine:

- **Grade 8:** £35,469 - £36,532 - £37,651 - £38,757 - £39,920 - £41,118 - £42,351 - £43,622

The initial salary will depend upon qualifications and experience. Salary is payable monthly on the last working day of each month.

- **Probation** Appointments of academic staff are normally subject to a three-year probationary period. Appointments for a fixed-term of three years or less are normally probationary for their duration. Appointments on probation are reviewed annually.
- **Hours** Appointments, unless otherwise stated, are full-time but no fixed number of hours of work is prescribed for members of the academic staff. Extra-mural lecturing for the University and examining work may be undertaken without obtaining specific permission, and so may occasional lectures, broadcasts, etc., but before engaging in other paid external work members of the academic staff must consult the Vice-Chancellor who will, if he considers it necessary, bring the matter before Senate and Council. This stipulation applies

to all paid external work that it is proposed to undertake in vacations as well as during term time, and in particular to consultancies and to work for any other university at home or abroad, including the Open University.

- **Pensions** Academic staff eligible for membership may, immediately on starting their employment, join USS - the occupational pension scheme provided by this University. Unless, prior to becoming an employee, he/she declares in writing a wish not to be a member of USS he/she will automatically be deemed to be a member from the start of the employment and contributions will be deducted accordingly. Contributions at the rate of 6.35% of salary will be deducted from the date of entry to the Scheme, at which time full details of benefits, etc., will be forwarded by the University Superannuation Office, from whom further information can be obtained at any time. The University contributes an amount equal to approximately 14% of salary.
- As a member of the USS, you will automatically participate in SMART Pensions, which is a scheme designed to produce financial benefits for both the University and employees. Further information about SMART Pensions will be provided to the successful candidate.
- **Holidays** Members of academic staff are entitled to six weeks of paid holiday in each leave year. This includes 6 days each year allocated by the University but excludes public holidays. The leave year commences on 1 January. Members of staff are expected to undertake such departmental duties as may be necessary during vacations, e.g. in connection with admissions, supervision of field courses or vacation courses. A member of staff is expected to consult his/her Head of Department over his/her leave arrangements to ensure the smooth running of the Department. Staff working part-time continuously throughout the year receive a *pro rata* annual leave entitlement. On termination of employment paid holiday entitlement shall be deemed to have accrued in proportion to completed months of service in the leave year.
- **Equal Opportunities** The University is committed to an equal opportunities policy in employment practice (a copy of the Equal Opportunities Policy is available by contacting the Equal Opportunities Team).
- **Notice** The appointment may be terminated by three months' notice in writing by either side.
- **Relocation** The successful candidate will be required to reside in or near Leicester unless otherwise especially permitted. The University has a scheme whereby it is prepared to give some assistance towards removal expenses in certain cases.

POSTGRADUATE CERTIFICATE IN ACADEMIC PRACTICE IN HIGHER EDUCATION

In common with most universities in the UK, Leicester provides an in-service training course for academic staff who have less than 3 years' experience in teaching in higher education. This programme forms part of the Postgraduate Certificate in Academic Practice and it offers an opportunity to engage with theories underlying learning, curriculum and assessment issues, and the professional and practical aspects of teaching in HE today. The aim of the programme is not to prescribe teaching methods, but rather to promote exploration of practices and approaches that can be adopted to ensure effective learning.

The University's Staffing Committee has agreed that newly appointed staff with less than 3 years' experience in teaching in HE in the UK should successfully complete Module A of this programme as part of the probationary requirements. Members of staff on appointments of one year or less are encouraged, but not required, to enrol on the Certificate as part of their professional development.

The overall aims of the programme are to:

- Enable participants to develop personally and professionally across the range of their academic roles (learning and teaching; research; management, administration and leadership) in ways relevant to their existing and future needs and responsibilities
- Encourage a reflective and scholarly approach to the study and practice of all academic roles
- Inculcate an awareness of the values (e.g. intellectual openness and breadth, confidentiality, respect for diversity, for individual learners and for colleagues) underpinning academic practice
- Encourage participants to develop a capacity for reflection on their practice and to embrace the notion of continued professional development
- Provide access routes to Registered Practitioner and Associate Registered Practitioner status with the Higher Education Academy

Iterations of Module A start in both semesters each academic year, giving participants flexibility about when they embark on the course. The module takes two semesters to complete, and is assessed by a portfolio.

Please contact the Course Leader, Derek Cox, in the University's Staff Development Centre (email dlc14@le.ac.uk or telephone 0116 252 5056) for further details.

Module A synopsis

MODULE A - TEACHING AND LEARNING IN THEORY AND PRACTICE

This module introduces participants to the theoretical aspects of learning that underpin teaching practices. It addresses the needs of academic staff new to teaching in HE or other staff (technical, librarians, research students) who have an active role in supporting the learning process.

Notional Learning Hours: 225

Contact time: 45 hrs

Credits: 30 CATS

Level: M

Aims

The overall aims of the module are:

- to explore the theoretical and contextual knowledge and practical teaching skills required to promote optimal student learning
- to develop reflective and professionally aware practitioners

Intended Learning Outcomes

By the end of the module, typical participants should be able to:

- recognise the impact of national trends on institutional agendas on learning, teaching and assessment matters (LO1)
- critically analyse theories and conceptual frameworks of learning, teaching and assessment, and evaluate their application in practice (LO2)
- demonstrate competence in choosing and using a variety of teaching and assessment and support strategies that meet the needs of a diverse and heterogeneous student body (LO3)
- encourage students to engage actively with, reflect upon and think critically about their disciplinary subject matter (LO4)
- use peer feedback (colleagues/mentors/observation of teaching), student feedback and their own reflection to inform and improve their own teaching and assessment practice (LO5)
- demonstrate their attention to student progression (LO6)
- apply and reflect on ethical and professional values underpinning practice (LO7)
- assess their personal and professional development needs and formulate Continuing Professional Development plans (LO8)

Educational Strategies

The module is delivered through a series of interactive workshops based on the key issues broached in this module. This contact time totals 45 hours, and is supplemented by the work-based study element (comprising your own teaching), and independent study time. Engagement with the module will amount altogether about 225 hours study time.

You are expected to take responsibility for the practical and theoretical aspects of your own learning and are expected to reflect on your experience of teaching. We recommend that you keep a log of your reflection - for use in your portfolio, and as good practice in developing a properly professional approach to teaching.

Remember that you are responsible for organising the peer observation sessions that relate to this module.

Outline of Content

- Introduction to Leicester and the wider HE context
- Teaching Practices (methods and tools, use of ICT, approaches to teaching and learning)
- Learning theories (cognitive theories, including constructivism, behaviourism, andragogy etc)
- Introduction to course design (aims, objectives, learning outcomes, progression)
- Diversity issues in Higher Education
- Professional values and Continuing Professional Development
- Assessment purpose and principles
- Assessment methods and Designing Assessment Strategies
- ICT in assessment, Computer-aided assessment (CAA), objective testing
- Seeking and using feedback to inform practice
- Feedback to students and Student support
- Enhancing and extending assessment practice

Assessment

Assessment for the module is achieved through the compilation of a portfolio. This is composed of three types of material – reflective writing, an evidence file and supplementary information. The combination of these types of material should be such that they allow the participant to demonstrate that they have met the module’s learning outcomes.

The *reflective writing* consists of four pieces written at stages throughout the course of Module A, and will allow participants to engage in critical and analytical reflection on practices they are developing and the theoretical standpoints they are utilising. The writing must also show that the learning outcomes for the module have been met.

The *evidence file* should comprise authentic and relevant material drawn from the participant’s current and developing practice as a teacher, and should substantiate the points made in the reflective writing. The evidence file should supply material equivalent to 3,000 words of original writing

The *supplementary material* is a mandatory part of the portfolio. It comprises:

- background details about the participant and the context in which he/she teaches
- the element proposal forms (EPFs)
- a mapping document to guide assessors through the portfolio &/or a learning outcomes index showing where they have been demonstrated
- reports of teaching observations by a member of the Course Team and the participant’s mentor.